

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251527

Luminaire Tested: **LD4B15D010 EU4B10209050 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251527
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209050 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1202.0 lumens
Efficiency: N/A
Efficacy: 83.5 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

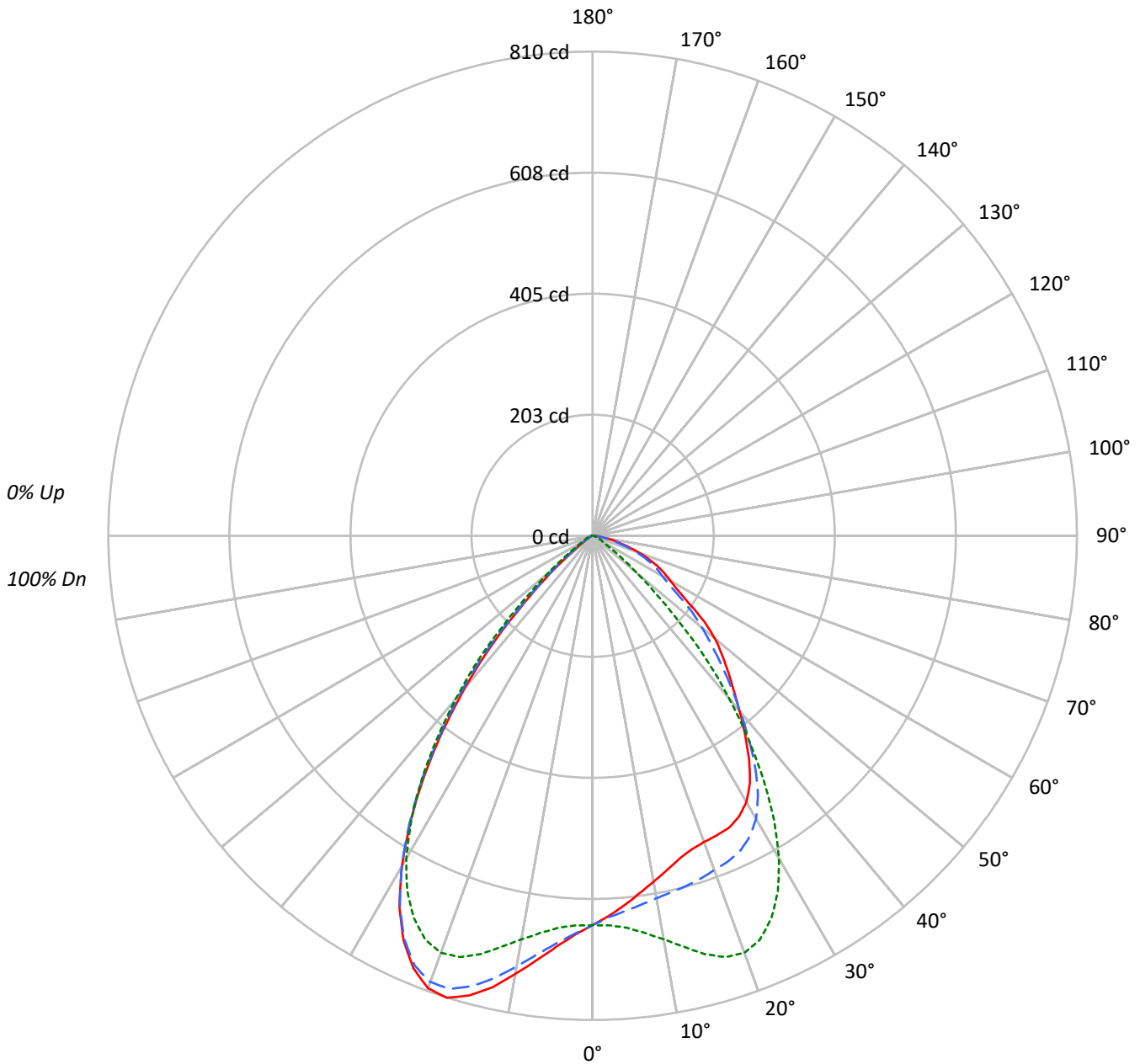
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90								
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80								
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72								
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64								
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48								
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44								
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40								
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	63484	63484	63484
5°	60645	64392	67464
10°	58150	67828	73627
15°	56451	73099	80303
20°	56534	76986	83520
25°	57971	75983	80370
30°	57899	70143	71775
35°	54229	59285	58476
40°	48574	45215	42187
45°	44063	28709	23555
50°	40482	14570	10052
55°	33235	6508	3330
60°	29179	3645	1832
65°	27442	2744	1384
70°	23508	2194	1225
75°	17924	1619	979
80°	12908	954	505
85°	9505	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.3	5.3
10°-20°	197.2	16.4
20°-30°	305.1	25.4
30°-40°	300.6	25.0
40°-50°	184.6	15.4
50°-60°	82.1	6.8
60°-70°	45.9	3.8
70°-80°	19.9	1.7
80°-90°	3.6	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	565.5	47.0
0°-40°	866.1	72.1
0°-60°	1132.8	94.2
0°-90°	1202.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1202.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	651	651	651	651	651	
5°	620	630	658	684	690	58
15°	560	606	724	780	796	159
25°	539	582	707	745	747	247
35°	456	474	498	497	492	283
45°	320	304	208	182	171	248
55°	196	177	38	22	20	180
65°	119	107	12	7	6	117
75°	48	41	4	3	3	52
85°	8	7	0	0	0	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4
2.5°	636.1	636.1	636.1	636.1	637.8	635.2	637.8	637.8	640.3	641.2	638.6
5°	619.9	619.0	619.9	619.9	621.6	620.7	623.3	625.0	628.4	630.1	630.1
7.5°	602.9	602.9	602.9	604.6	607.1	606.3	608.8	611.4	616.5	619.9	622.4
10°	587.6	586.7	589.3	590.1	592.7	592.7	596.9	599.5	605.4	612.2	615.6
12.5°	573.1	572.3	574.0	576.5	580.8	580.8	584.2	588.4	596.9	604.6	610.5
15°	559.5	560.4	562.9	564.6	569.7	569.7	574.0	579.1	588.4	597.8	606.3
17.5°	550.2	551.0	552.7	555.3	560.4	560.4	564.6	570.6	580.8	591.0	601.2
20°	545.1	545.9	547.6	550.2	554.4	555.3	558.7	565.5	574.8	585.9	595.2
22.5°	542.5	544.2	545.9	547.6	551.9	551.9	556.1	561.2	570.6	581.6	590.1
25°	539.1	540.8	541.7	544.2	547.6	547.6	550.2	556.1	564.6	574.0	582.5
27.5°	529.8	531.5	532.3	534.9	538.3	537.4	540.8	545.1	552.7	561.2	568.0
30°	514.5	515.3	517.0	517.9	520.4	520.4	523.0	527.2	532.3	540.0	546.8
32.5°	489.8	491.5	492.3	493.2	495.7	494.9	495.7	498.3	503.4	510.2	514.5
35°	455.8	459.2	459.2	460.9	461.7	460.9	460.9	464.3	466.8	471.9	474.5
37.5°	418.4	420.9	420.1	421.8	422.6	420.1	421.8	422.6	426.0	428.6	429.4
40°	381.8	382.7	382.7	382.7	382.7	381.8	382.7	383.5	386.1	386.1	383.5
42.5°	348.6	349.5	349.5	347.8	349.5	348.6	348.6	348.6	348.6	345.2	342.7
45°	319.7	320.6	320.6	319.7	319.7	318.0	317.2	316.3	313.8	309.5	303.6
47.5°	292.5	294.2	295.1	293.4	292.5	290.8	290.8	285.7	282.3	277.2	268.7
50°	267.0	268.7	268.7	267.0	267.0	264.5	261.9	260.2	255.1	249.1	238.9
52.5°	234.7	237.2	237.2	236.4	236.4	233.0	232.1	228.7	224.5	217.7	209.2
55°	195.6	199.0	198.1	197.3	195.6	195.6	195.6	193.0	190.5	185.4	176.9
57.5°	167.5	168.4	168.4	167.5	167.5	165.8	165.8	163.3	162.4	157.3	150.5
60°	149.7	149.7	150.5	149.7	148.8	148.0	147.1	145.4	142.9	139.5	134.4
62.5°	135.2	136.1	136.1	135.2	134.4	133.5	132.7	131.0	129.3	126.7	121.6
65°	119.0	120.7	119.9	119.0	118.2	117.3	117.3	115.6	113.9	112.2	107.1
67.5°	101.2	102.0	102.9	101.2	101.2	100.3	100.3	98.6	97.8	94.4	91.0
70°	82.5	83.3	83.3	82.5	82.5	81.6	81.6	80.8	79.9	77.4	74.0
72.5°	64.6	65.5	64.6	63.8	63.8	63.8	62.9	62.1	61.2	59.5	57.0
75°	47.6	47.6	48.5	47.6	46.8	46.8	45.9	45.9	44.2	43.4	40.8
77.5°	34.0	34.9	34.0	34.0	33.2	32.3	32.3	31.5	31.5	30.6	28.9
80°	23.0	23.0	23.8	23.0	22.1	23.0	22.1	21.3	21.3	20.4	18.7
82.5°	14.5	15.3	14.5	14.5	14.5	14.5	14.5	13.6	13.6	12.8	11.9
85°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	7.7	7.7	7.7	6.8
87.5°	4.3	4.3	3.4	3.4	4.3	4.3	4.3	3.4	3.4	3.4	3.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4
2.5°	642.0	642.9	644.6	647.1	647.1	645.4	649.7	649.7	651.4	652.2	655.6
5°	635.2	636.9	640.3	644.6	645.4	644.6	650.5	653.1	655.6	658.2	663.3
7.5°	629.3	632.7	638.6	644.6	647.1	647.1	656.5	659.9	665.0	670.1	676.0
10°	625.9	631.0	639.5	648.8	651.4	653.9	665.0	671.8	678.6	685.4	693.9
12.5°	621.6	631.0	642.0	653.9	659.0	662.4	677.7	686.2	695.6	704.1	715.1
15°	620.7	631.8	646.3	661.6	668.4	673.5	690.5	702.4	713.4	724.5	735.5
17.5°	617.3	631.0	648.8	665.8	674.3	681.1	700.7	715.1	727.9	738.9	751.7
20°	613.1	628.4	648.0	666.7	676.0	682.8	704.1	717.7	732.1	742.3	754.3
22.5°	607.1	622.4	642.0	660.7	669.2	675.2	696.4	708.3	721.1	731.3	742.3
25°	596.9	611.4	628.4	643.7	652.2	657.3	676.0	687.1	696.4	706.6	716.8
27.5°	582.5	593.5	608.0	619.0	624.2	629.3	644.6	653.9	662.4	670.9	677.7
30°	557.0	565.5	575.7	585.0	590.1	591.0	605.4	610.5	617.3	623.3	628.4
32.5°	523.0	529.8	535.7	540.8	544.2	545.1	556.1	557.8	564.6	564.6	572.3
35°	479.6	483.0	487.2	487.2	489.8	487.2	494.9	496.6	497.4	498.3	504.3
37.5°	430.3	432.0	434.5	429.4	429.4	426.9	429.4	431.1	427.7	427.7	432.0
40°	383.5	380.1	376.7	371.6	369.0	363.9	363.9	359.7	357.1	355.4	356.3
42.5°	338.4	330.8	323.1	312.1	307.0	301.9	296.8	290.8	289.1	284.9	282.3
45°	295.1	284.0	273.8	256.0	245.7	240.6	229.6	217.7	210.0	208.3	201.5
47.5°	258.5	242.3	225.3	204.1	193.9	184.5	168.4	158.2	148.0	142.9	138.6
50°	226.2	211.7	189.6	166.7	153.9	144.6	126.7	114.8	103.7	96.1	91.0
52.5°	198.1	182.0	161.6	135.2	122.4	112.2	92.7	79.1	69.7	62.1	56.1
55°	166.7	153.9	133.5	108.8	96.1	84.2	67.2	52.7	43.4	38.3	34.0
57.5°	143.7	132.7	113.1	89.3	77.4	66.3	49.3	37.4	29.8	24.7	22.1
60°	128.4	118.2	101.2	78.2	67.2	57.0	40.8	29.8	23.0	18.7	17.0
62.5°	115.6	105.4	90.1	68.9	59.5	49.3	34.9	24.7	18.7	15.3	12.8
65°	101.2	91.8	78.2	59.5	51.0	42.5	29.8	20.4	15.3	11.9	10.2
67.5°	85.9	77.4	65.5	49.3	42.5	35.7	23.8	17.0	12.8	10.2	8.5
70°	69.7	62.9	51.9	40.0	34.0	28.1	19.6	13.6	9.4	7.7	6.8
72.5°	53.6	47.6	40.0	30.6	25.5	21.3	14.5	10.2	7.7	6.0	5.1
75°	38.3	34.0	28.1	22.1	18.7	15.3	11.1	7.7	5.1	4.3	3.4
77.5°	26.4	23.8	19.6	15.3	12.8	11.1	7.7	5.1	4.3	3.4	2.6
80°	17.0	15.3	12.8	9.4	7.7	6.8	4.3	3.4	2.6	1.7	1.7
82.5°	10.2	9.4	7.7	5.1	4.3	3.4	2.6	1.7	1.7	0.9	0.9
85°	6.0	5.1	3.4	2.6	2.6	1.7	1.7	0.9	0.9	0.0	0.0
87.5°	2.6	1.7	1.7	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4
2.5°	653.9	658.2	657.3	659.9	659.0	659.0	663.3	661.6	665.8	665.8	666.7
5°	663.3	669.2	669.2	673.5	672.6	674.3	678.6	678.6	683.7	685.4	685.4
7.5°	676.9	684.5	686.2	690.5	691.3	694.7	698.1	699.0	705.8	707.5	708.3
10°	695.6	704.9	707.5	711.7	713.4	716.8	721.1	722.8	731.3	732.1	735.5
12.5°	718.5	728.7	731.3	736.4	737.2	741.5	747.4	749.2	757.7	760.2	762.8
15°	740.6	750.0	754.3	759.4	760.2	765.3	770.4	772.1	779.8	783.2	785.7
17.5°	756.0	767.0	769.6	776.4	776.4	780.6	785.7	787.4	795.1	797.6	799.3
20°	759.4	769.6	773.0	778.1	778.9	781.5	785.7	787.4	794.2	795.1	797.6
22.5°	746.6	756.8	758.5	763.6	764.5	767.0	770.4	769.6	778.1	777.2	778.1
25°	719.4	728.7	728.7	734.7	733.8	736.4	738.1	737.2	744.9	744.9	744.9
27.5°	680.3	688.8	689.6	693.9	691.3	692.2	693.9	693.0	698.1	698.1	698.1
30°	631.8	638.6	636.1	639.5	637.8	639.5	637.8	636.9	638.6	640.3	639.5
32.5°	571.4	576.5	576.5	577.4	577.4	572.3	570.6	570.6	569.7	568.9	568.9
35°	501.7	506.0	504.3	504.3	503.4	498.3	495.7	494.0	496.6	491.5	494.9
37.5°	430.3	431.1	428.6	427.7	423.5	423.5	419.2	415.8	417.5	416.7	413.3
40°	352.0	355.4	350.3	348.6	351.2	347.8	343.5	339.3	342.7	338.4	340.1
42.5°	275.5	274.7	273.0	273.0	273.0	267.9	267.0	266.2	267.0	263.6	261.1
45°	199.0	196.4	193.9	193.9	190.5	188.8	188.8	186.2	182.0	182.0	176.9
47.5°	134.4	128.4	126.7	125.9	124.1	124.1	122.4	120.7	119.9	115.6	115.6
50°	87.6	81.6	79.9	79.1	79.9	78.2	76.5	74.8	73.1	72.3	70.6
52.5°	52.7	50.2	48.5	47.6	45.9	45.1	44.2	42.5	41.7	41.7	40.8
55°	31.5	28.9	25.5	25.5	25.5	24.7	23.8	23.0	22.1	22.1	21.3
57.5°	19.6	17.9	16.2	15.3	15.3	15.3	14.5	14.5	14.5	14.5	13.6
60°	14.5	12.8	11.9	11.9	11.9	11.1	11.1	11.1	11.1	10.2	10.2
62.5°	11.1	10.2	9.4	9.4	8.5	8.5	8.5	8.5	8.5	8.5	7.7
65°	9.4	7.7	7.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
67.5°	6.8	6.0	6.0	6.0	6.0	5.1	5.1	5.1	5.1	5.1	5.1
70°	5.1	5.1	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
72.5°	4.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
75°	3.4	3.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
77.5°	2.6	2.6	2.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	1.7	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4
2.5°	666.7	670.9	666.7	666.7	669.2	668.4	670.1	667.5
5°	686.2	692.2	687.9	687.1	691.3	690.5	691.3	689.6
7.5°	710.0	716.0	711.7	711.7	716.0	715.1	717.7	716.0
10°	737.2	744.0	738.1	738.9	744.9	744.0	744.0	744.0
12.5°	765.3	772.1	768.7	768.7	773.0	773.8	774.7	773.8
15°	788.3	795.1	790.8	790.8	796.8	795.9	796.8	795.9
17.5°	801.9	808.7	803.6	803.6	808.7	808.7	809.5	810.4
20°	798.5	806.1	801.9	800.2	806.1	806.1	805.3	805.3
22.5°	778.9	785.7	782.3	780.6	784.9	783.2	782.3	783.2
25°	744.9	751.7	744.9	744.9	748.3	747.4	748.3	747.4
27.5°	699.0	704.1	697.3	696.4	699.8	698.1	697.3	699.8
30°	637.8	642.9	639.5	636.9	641.2	638.6	636.9	637.8
32.5°	568.0	571.4	569.7	565.5	568.0	566.3	565.5	566.3
35°	491.5	495.7	488.9	488.1	492.3	488.9	487.2	491.5
37.5°	412.4	417.5	411.6	412.4	409.9	410.7	409.0	411.6
40°	337.6	336.7	335.0	334.2	335.0	332.5	334.2	331.6
42.5°	256.8	258.5	257.7	256.8	257.7	254.3	252.6	256.0
45°	178.6	177.7	176.0	174.3	174.3	173.5	173.5	170.9
47.5°	114.8	113.9	110.5	111.4	113.1	111.4	108.8	112.2
50°	69.7	68.9	68.9	68.0	69.7	68.0	66.3	66.3
52.5°	39.1	39.1	38.3	38.3	38.3	38.3	37.4	36.6
55°	21.3	20.4	20.4	20.4	19.6	19.6	19.6	19.6
57.5°	13.6	13.6	13.6	13.6	13.6	13.6	12.8	12.8
60°	10.2	10.2	10.2	10.2	9.4	10.2	9.4	9.4
62.5°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
65°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
67.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
70°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
72.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
75°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)